plastycznym (MDS), a najsłabsza w ostrej białaczce limfoblastycznej (ALL). Nie wykluczone, że spostrzegane różnice intensywności efektu GvL wynikają z odmiennej ekspresji antygenów głównego i tzw. mniejszego układu zgodności tkankowej człowieka zlokalizowanych na powierzchni komórek białaczkowych przeciw, którym skierowane jest działanie komórek efektorowych GvL. Prowadzone są badania dotyczące optymalnej liczby limfocytów CD3+ podawanych w infuzji, odstępu między kolejnymi infuzjami, kojarzenia DLI z podawaniem niektórych cytokin oraz optymalizowania immunoterapii w zależności od wyników molekularnych badań chimeryzmu i poziomu choroby resztkowej. Próbuje się zidentyfikować czynniki prognostyczne, które pozwoliłyby przewidywać zarówno odpowiedź na DLI, jak i ryzyko wystąpienia powikłań związanych z jej podaniem, zwłaszcza GvHD. Podejmowane są próby selekcji i/lub generacji swoistych limfocytów CD3 wykazujących silny efekt przeciwbiałaczkowy, a jednocześnie nie uczestniczących w GvHD.

## 110.
## VERIFICATION AND EXTERNAL AUDIT OF DOSE FOR CONVENTIONAL RADIOTHERAPY AND FOR THE NEW TECHNOLOGY: HOW WELL CAN WE DELIVER RADIOTHERAPY DOSES?

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A recent EU Directive on medical radiation exposures includes a requirement for Clinical Audit of all such processes. Flexibility was given for this to be carried out 'in accordance with national procedures'. Whilst clinical audit in radiotherapy must cover the whole range of processes from referral to follow-up, one critical part of audit is that of delivered doses to patients; both at the level of the individual patient (to include internal audit, dose verification, in vivo dosimetry) and at the level of the institution (to include systematic assessments of dose accuracy and precision and also external audit). Audit must be against accepted evidence-based standards. For conventional radiotherapy, techniques are well established for such dosimetric studies. As regards internal audit (or dose verification) some results and observations are given from the 10-year experience of systematic use of diodes for in vivo dosimetry in the Edinburgh Cancer Centre As regards external audit, there are a range of national and international systems carrying out measurements, some based on site visits (e.g. Finland, UK) and some based on mailed TLD (e.g. Poland, ESTRO-EQUAL). Methods and results are illustrated by considering the UK audit network and the ESTRO-EQUAL system. Currently, new technology is being rapidly introduced and implemented in radiotherapy departments. This includes some newer designs of treatment equipment, such as tomotherapy and robotic systems; non-standard beams and treatment techniques, such as IMRT and image-guided techniques. These introduce new problems for dose verification and for external audit, requiring more complex measurement methods. Specifically they require at least 2-dimensional and integrating methods to cope with varying intensity beams and dynamic delivery. Single point methods are no longer sufficient. Some requirements for these applications are discussed. Some methods and results are considered from the development and implementation of film-based approaches to dose verification and for external audits and also from initial studies of aSi EPIDs for dose verification and for in vivo dosimetry. Conclusions can be drawn from the evidence base of these results on what accuracy is achievable in radiotherapy dosimetry within a given department and between departments. This can be used to help to inform decisions and strategies for the use of IMRT and other complex technologies.